

**Work Order ID 61294**

Friday, August 13, 2010 12:48:28 PM



Page 1

Item ID: D206-667-103

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Fwd

Start Date: 8/16/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 8/30/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: mf Date: 10-8-13

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D206-667-143	Rev C

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D206-667-103 CHG004

8/10/08/13H for BG 10-9-13

110

0.00



Pick Kit

Packaging

Packaging

Memo

0.00

Packaging

(IX)QMB 10-08-31

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D206-667-143 using CNC bender program

(IX)QMB 10-08-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

8/10/06/31

(4)

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
	Crosstubes								
Crosstubes									
Crosstubes									
	<b>Memo</b>	0.00							
	1-Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes.								
	3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.								
	4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes.								
	5-Drill pilot holes as per Dwg D206-667-143. Drill only the top (2) holes.								
	6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.								
	7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-141.								
	8-C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint.								
	9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143 Inside of Cuff(Donot engrave on outside of tube)								
	10-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143								

MB/SAD  
10-08-31  
MB  
10-09-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150



HandFXtube

Crosstubes Chemical Conversion

0.00

Memo

0.00

SAD  
10-09-01

Hand Finishing Crosstubes

160



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00



4/1005-01

170



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00



4/1005-01

W/O:		WORK ORDER CHANGES					
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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	Outsource process - NDT per QSI038 4.1	0.00							
Outsource2	Memo	0.00							
Outsource process - NDT	CROSSTUBES								
190 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
200 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

2/0.12506

CY 10/9/03 ①

CY 10/9/13 ①

ml 10 09 08 ①

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	SprayPaint	0.00							
	SprayPaint	0.00				ml	10	09	08 ①
Spray Painting	Memo								
	1-Prime inside and outside crosstube as per QSI 005 4.2								
	2-Paint outside crosstube with White Imron as per QSI 005 4.2								
	PRIME:								
	Start Time: 8:30								
	Finish Time: 9:30								
	PAINT:								
	Start Time: 2:30								
	Finish Time: 3:30								
220	QC14- Inspect Spray Paint	0.00							
	QC	0.00							
Quality Control	Memo								
	Wrap in plastic bag to protect from scratches								
									②

8/10/09/09

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230  Crosstubes	Crosstubes	0.00				ml	10	09	09 ①
Crosstubes	Memo (ASSEMBLE AS PER DWG D206-667-143) 1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note: (2) Aft holes should be facing up. A/R Magnobond 6398 : 114158 exp 21/2011  2-Install supports and clamps as per Dwg D206-667-143. Torque clamps to 80-100 in lb  3-Install nut plates as per Dwg D206-667-143. Touch-up rivet heads with Imron paint.	0.00							} RT 10-09-10
240  QC	QC5- Inspect part completeness to step on W/O	0.00							⑦
Quality Control	Memo	0.00							

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 	Pick Kit	0.00							
Packaging	Memo	0.00							<i>Comp 8/13</i> (1)
Packaging									
260 	QC4- 100% Inspect kits for completeness	0.00							
QC	Memo	0.00							(70)
Quality Control									
270 	Packaging	0.00							
Packaging	Memo	0.00							<i>Comp 8/13</i> (1)
Packaging	Identify and pack for shipping as per PPP D206-667-103								
	Location: _____								
	PPP Rev: <i>P</i>								

W/O:		WORK ORDER CHANGES					
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Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/09/15

MF  
10-9-15

W/O:		WORK ORDER CHANGES					
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Parent Item: D206-667-103



Parent Item Name: Crosstube Fwd


Start Date: 8/16/2010

Required Date: 8/30/2010

Start Qty: 1.00


Required Qty: 1.00

Comments: IPP Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM  
 IPP Rev:G 08-06-03 update as per DS19415 (ECN1198) DD verified by:  
 IPP Rev: H 08.11.17 QC5 was QC6 at step 12 KJ verified by: EC  
 IPP Rev:I 08-12-15 add magnobond DD verified by:EC  
 IPP Rev J 09.01.06 ECN 08-562 EC verified by: DD  
 IPP Rev:K 09-01-19 as per DS19439 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN5-30A  BOLT		Purchased	No			250	Each	110.0000	4	4			

Location	Loc Qty	Loc Code
ST339	110	
102473	4	
105144	10	
112933	21	
114437	25	
114941	50	

M105144

AN5-32A  Bolt		Purchased	No			250	Each	232.0000	4	4			
-------------------------------------------------------------------------------------------------------	--	-----------	----	--	--	-----	------	----------	---	---	--	--	--

Location	Loc Qty	Loc Code
ST340	232	
113121	4	
114056	74	
114405	50	
115016	50	
115108	50	
15072	4	

M114056

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Start Date: 8/16/2010

Required Date: 8/30/2010

Start Qty: 1.00

Required Qty: 1.00

AN5-7A

Purchased

No

250

Each

200.0000

10

10



Bolt

Location

Loc Qty

Loc Code

ST337

200

100826

10

109061

4

113149

186

AN960D516

NAS1149D0563J

Purchased

No

250

Each

34.0000

18

18



Washer

Location

Loc Qty

Loc Code

ST

34

103694

18

107534

12

109287

4

AN970-4

Purchased

No

250

Each

82.0000

12

12



Washer

Location

Loc Qty

Loc Code

ST349

82

112991

32

115266

50

D206-667-103TRN

Manufactured

No

110

Each

2.0000

1

1



Crosstube Turning DetailL

Location

Loc Qty

Loc Code

FG

1

60143

1

60144

1

LG

1

361430

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Shop Packet Print

Page 2

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Start Date: 8/16/2010

Required Date: 8/30/2010

Start Qty: 1.00

Required Qty: 1.00

D2873-043

Manufactured No

230

Each

32.0000

2

2



Nut Plate Assembly



85

10-09-10

Location

Loc Qty

Loc Code

LG

32

53966

10

56466

2

57337

20

x2

D2873-045

Manufactured No

230

Each

28.0000

2

2



Nut Plate Assembly



85

10-09-10

Location

Loc Qty

Loc Code

LG

28

53968

9

57336

19

x2

D2891-1

Manufactured No

230

Each

69.0000

2

2



2.25 Support



Location

Loc Qty

Loc Code

LG

69

46159

15

50952

18

53347

4

53773

20

55786

12

MA 10-09-09

W/O:		WORK ORDER CHANGES					
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Parent Item: D206-667-103



Parent Item Name: Crosstube Fwd

Start Date: 8/16/2010

Required Date: 8/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3595-063-395

Manufactured No

230

Each

46.0000

4

4



RUBBER CUSHION



*mm 10.09.09*

## Location

## Loc Qty

## Loc Code

FP

10

44667

10

ST

36

60585

36

RUBBER CUSHION .63" x 3.95" (4)

MS20601-AD4W8

Purchased

No

230

Each

286.0000

14

14



RIVET

*\* m 112203 x 14*



*RT 10.09.10*

## Location

## Loc Qty

## Loc Code

ST322

286

108521

98

112203

188

MS21042L5

Purchased

No

250

Each

734.0000

4

4



Nut



*10/13/13 (1)*

## Location

## Loc Qty

## Loc Code

ST139

234

114813

234

ST300

500

115156

500

*m114813*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 5

Friday, August 13, 2010 12:48:27 PM

Work Order ID: 61294



Parent Item: D206-667-103



Parent Item Name: Crosstube Fwd

Start Date: 8/16/2010

Required Date: 8/30/2010

Start Qty: 1.00

Required Qty: 1.00

MS21920-20

Purchased

No

230

Each

103.0000

4

4



Clamp (per MIL-DTL-8783C)

*ML* 10-09-09

Location

Loc Qty

Loc Code

LG

103

112624

18

114687

35

114779

24

115057

26


Friday, August 13, 2010 12:48:27 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

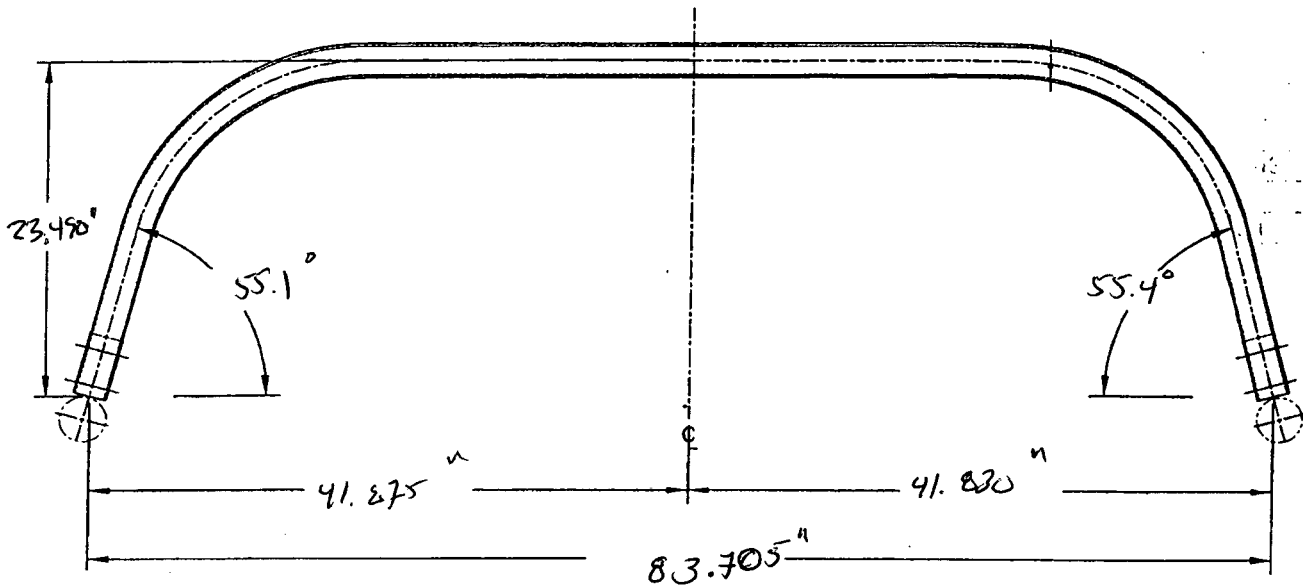
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	01294
Description: Crosstube High Fwd (206L)		Part Number:	D206-667-103
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.10



Comments

QC15 Inspection	8
Date	10/08/34

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.06.26	Dimensions updated per Dwg Rev C	KJ	
C	09.10.22	Minimum height dimension revised	KJ	

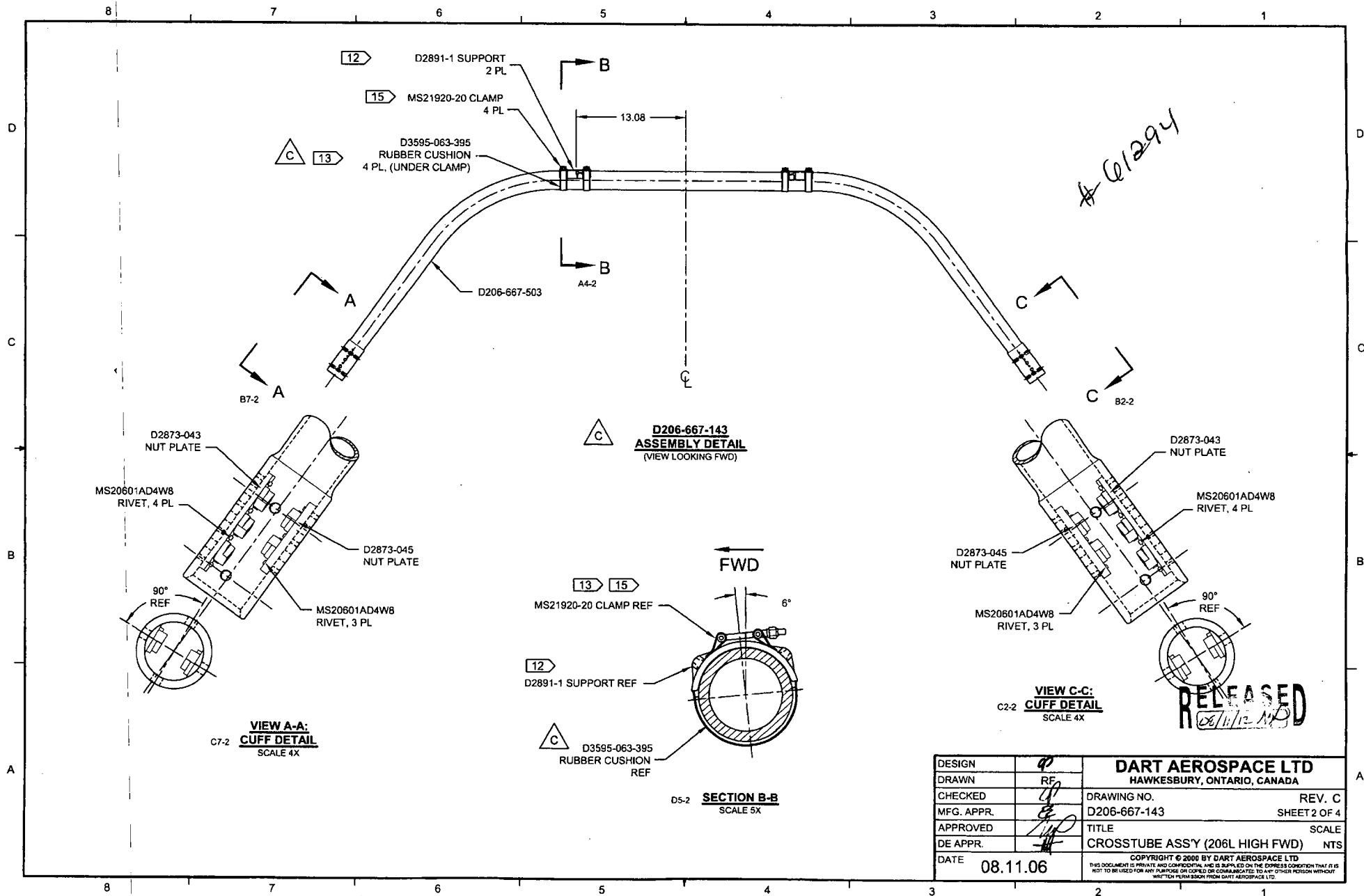
Item	Qty -143	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

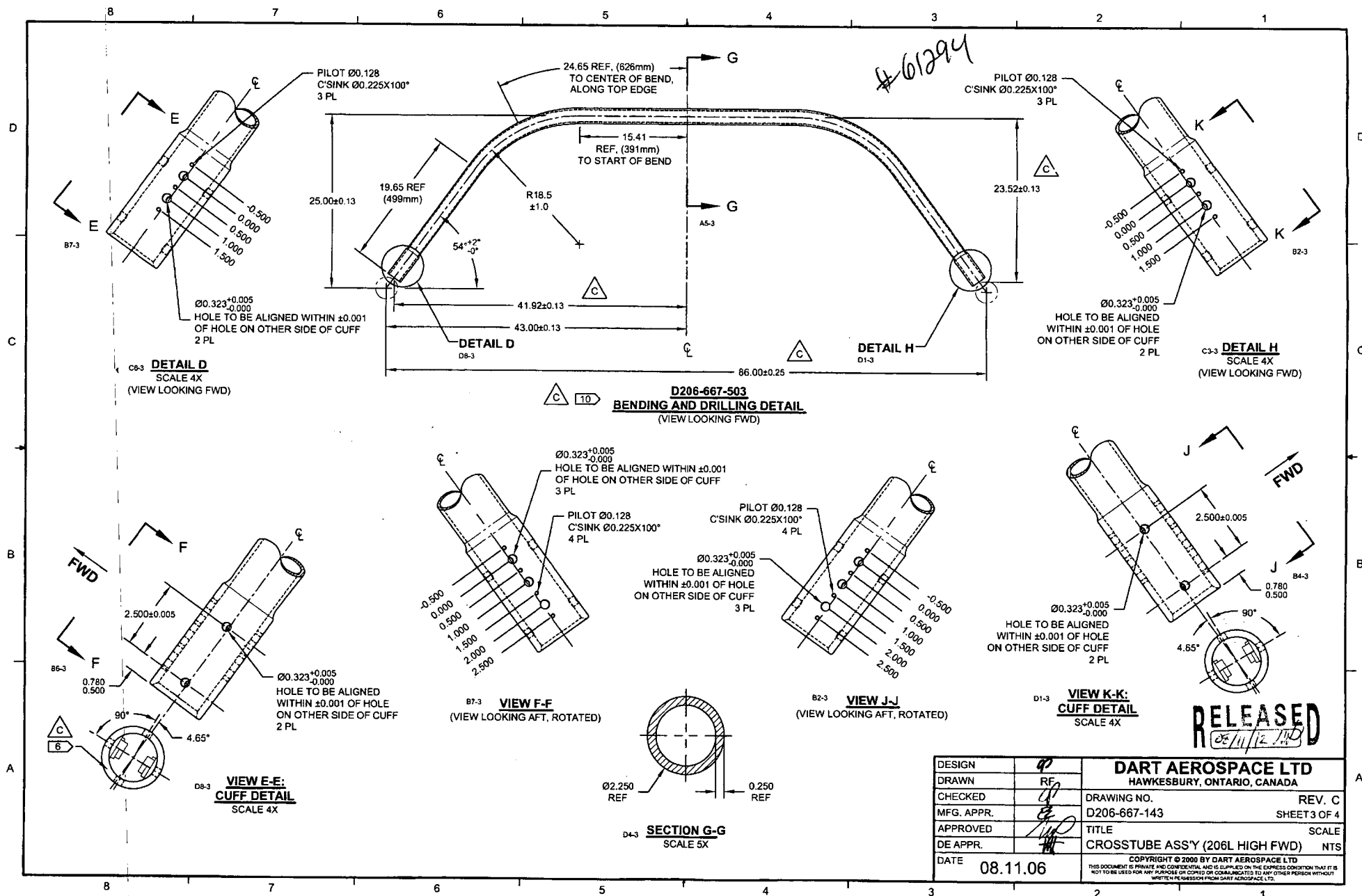
#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115  
FINISHED LENGTH = 104.98±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 15.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

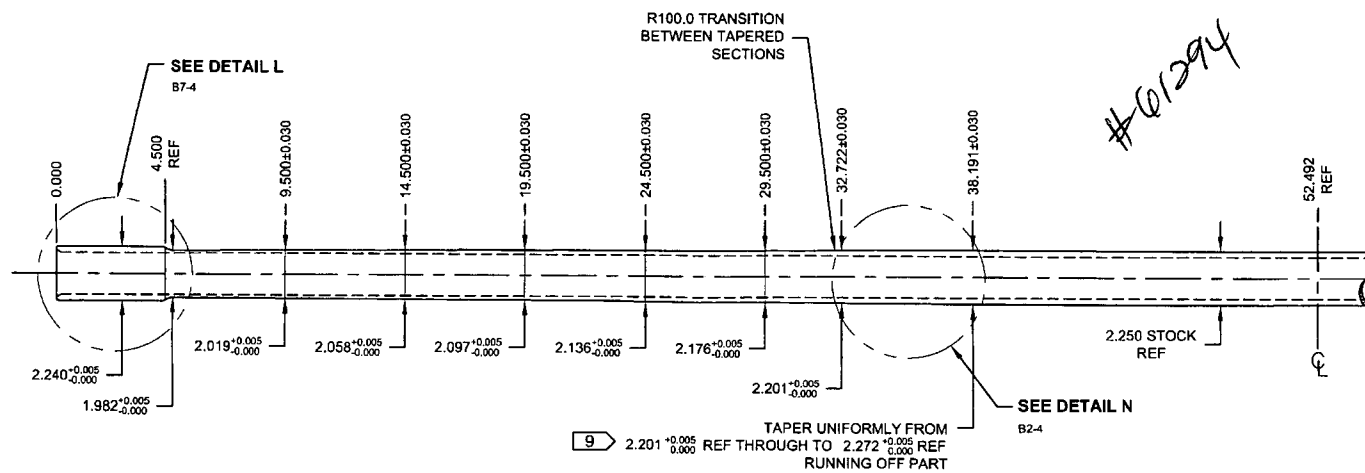
RELEASED

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	90	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. D206-667-143 TITLE CROSSTUBE ASS'Y (206L HIGH FWD) SCALE NTS COPYRIGHT © 2000 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	
DRAWN	RF		
CHECKED	CP		
MFG. APPR.	90		
DE APPR.	90		
DATE	08.11.06		

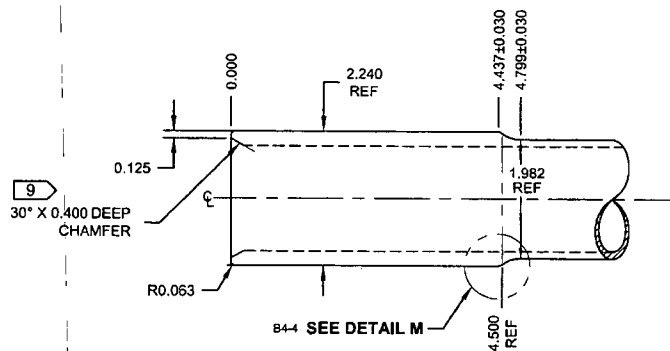




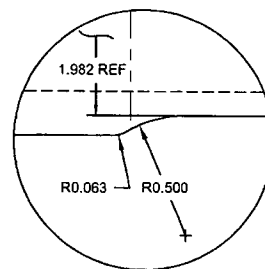




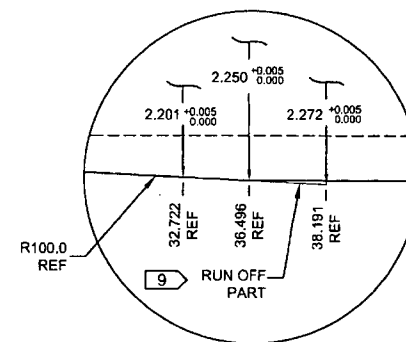
**C TURNING DETAIL**



**DETAIL L:  
CROSSTUBE CUFF**  
D7-4 NOT TO SCALE



**DETAIL M:  
CUFF TRANSITION**  
A6-4 NOT TO SCALE



**DETAIL N:  
TAPER RUN-OFF**  
C4-4 NOT TO SCALE

**RELEASED**

DESIGN	9	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.	RF	D206-667-143	SHEET 4 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE ASSY (206L HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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## LIQUID PENETRANT TEST REPORT

P- 15188

CLIENT	<u>DART AEROSPACE</u>	DATE	<u>SEP 2 2010</u>	PAGE	<u>1</u>	OF	<u>1</u>	
ATTENTION	<u>LINDA/CHARTER</u>	ACUREN JOB No.	<u>188-10-0832</u>	TIME	AM	<input checked="" type="checkbox"/>	PM	<input type="checkbox"/>
ADDRESS	<u>1270 ABELEEN STREET</u>	POWOW No.	<u>12506</u>	WORK LOCATION	<u>HAWKESBURY PLANT</u>			
	<u>HAWKESBURY ON.</u>	ACCEPTANCE STD.	<u>ASTM 1417</u>	REV./DATE	<u>2007</u>			
PROJECT	<u>F.P.I. ON CROSS TUBES</u>							
ITEM(S) EXAMINED	<u>4 PCS. + 5 MACHINED STUDS</u>							

JOB DESCRIPTION	PROCEDURE No. <u>LT002</u> REV./DATE	TECHNIQUE No. <u>LT-Test 2</u> REV./DATE <u>2008</u>
PART No.	MATERIAL <u>ALUMINUM</u> THICKNESS <u>VARIOUS</u>	
SCOPE	<u>WET FLUORESCENT LIQUID - STAINLESS STEEL</u> <u>PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL</u>	

TEST DETAILS	
METHOD <input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MAGNAFLUX</u>	BLACK LIGHT S/N <u>16459</u> <input type="checkbox"/> OUTPUT > 1000 $\mu$ W/CM <sup>2</sup> <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>2LG7</u> MINIMUM DWELL TIME <u>45</u> MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER <u>H2O</u> MINIMUM DRY TIME <u>&gt;10</u> MIN.	OTHER <u>LABINO</u>
DEVELOPER <u>KD 52</u> MINIMUM DWELL TIME <u>10</u> MIN.	LIGHT METER S/N <u>1098866</u> CAL DUE DATE <u>OCT-19</u>
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	<u>2010</u>

TEST SURFACE	
SURFACE CONDITION <input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED <input type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input type="checkbox"/> CLEAN BARE METAL	
SURFACE TEMPERATURE <input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F <input type="checkbox"/> 10°C/50°F TO 52°C/125°F <input type="checkbox"/> > 52°C/125°F	

RESULTS- <input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL
<u>1 - CROSS TUBE - W.O. 61294 ✓</u> <u>1 - CROSS TUBE - W.O. 61295 ✓</u> <u>1 - CROSS TUBE - W.O. 61296 ✓</u> <u>1 - CROSS TUBE - W.O. 61297 ✓</u> <u>5 - STUDS - W.O. 61371 ✓</u>
<u>M/10.09.08</u>

**Scope of Services**  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

**Standard of Care**  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES	
CLIENT REPRESENTATIVE <u>Matt Murdoch</u>	DTR # <u>E27427</u>
TECHNICIAN (SIGNATURE): <u>Mike Johnston</u>	REPORT REVIEWED BY:
NAME (PRINT): <u>Mike Johnston</u>	NAME INITIALS
CGSB LEVEL <u>1<sup>ST</sup></u> SNT LEVEL <u>1</u> CGSB REG. No. <u></u>	CGSB LEVEL <u>2<sup>ND</sup></u> SNT LEVEL <u>1</u> CGSB REG. No. <u></u>